

MINOR SOURCE OPERATING PERMIT OFFICE OF AIR MANAGEMENT

**Howmet Corporation, LaPorte Casting
1110 E. Lincolnway
LaPorte, IN 46350**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP091-11567-00047	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

TABLE OF CONTENTS

A SOURCE SUMMARY

- A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]
- A.2 Emission Units and Pollution Control Equipment Summary
- A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

B GENERAL CONSTRUCTION CONDITIONS

- B.1 Permit No Defense [IC 13]
- B.2 Definitions
- B.3 Effective Date of the Permit [IC13-15-5-3]
- B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]
- B.5 Modification to Permit [326 IAC 2]
- B.6 Minor Source Operating Permit [326 IAC 2-6.1]

C SOURCE OPERATION CONDITIONS

- C.1 Particulate Matter Emission Limitations For Processes with Process Weight Rates Less
- C.2 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]
- C.3 Preventive Maintenance Plan [326 IAC 1-6-3]
- C.4 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]
- C.5 Inspection and Entry [326 IAC 2-7-6(2)]
- C.6 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]
- C.7 Permit Revocation [326 IAC 2-1-9]
- C.8 Opacity [326 IAC 5-1]
- C.9 Fugitive Dust Emissions [326 IAC 6-4]

Testing Requirements

- C.10 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

Compliance Monitoring Requirements

- C.11 Compliance Monitoring [326 IAC 2-1.1-11]
- C.12 Monitoring Methods [326 IAC 3]
- C.13 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]

Record Keeping and Reporting Requirements

- C.14 Malfunctions Report [326 IAC 1-6-2]
- C.15 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]
- C.16 General Record Keeping Requirements [326 IAC 2-6.1-2]
- C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]
- C.18 Annual Notification [326 IAC 2-6.1-5(a)(5)]

D.1 Emissions unit OPERATION CONDITIONS - Shotblasters

Emission Limitations and Standards

- D.1.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Compliance Determination Requirements

- D.1.2 Testing Requirements [326 IAC 2-1.1-11]
- D.1.3 Particulate Matter (PM)

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

- D.1.4 Visible Emissions Notations
- D.1.5 Parametric Monitoring
- D.1.6 Baghouse Inspections
- D.1.7 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]
D.1.8 Record Keeping Requirements

D.2 Emissions unit OPERATION CONDITIONS - Shell Preheater Ovens, Boilers

Emission Limitations and Standards

- D.2.1 Particulate Matter Limitation (PM) [326 IAC 6-2-4]
- D.2.2 Particulate Matter (PM) [326 IAC 6-3-2(c)]
- D.2.3 Natural Gas Fuel

Compliance Determination Requirements

- D.2.4 Testing Requirements [326 IAC 2-1.1-11]

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

**Annual Notification
Malfunction Report**

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary metal alloy casting plant.

Authorized Individual: Troy T. Wilkinson
Source Address: 1110 E. Lincolnway, LaPorte, IN 46350
Mailing Address: 1110 E. Lincolnway, LaPorte, IN 46350
Phone Number: 219-326-7400
SIC Code: 3324
County Location: LaPorte
County Status: Attainment for all criteria pollutants
Attainment area for all other criteria pollutants
Source Status: Minor Source Operating Permit
Minor Source, under PSD Rules

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) One (1) Ceramic Mold Operation, with a maximum capacity of 0.66 tons of metal and ceramic molds per hour and consisting of the following:
 - (1) One dewax furnace, with a maximum rated heat capacity of 1.9 mmBtu per hour, identified as DEWAX-BIG-BERTHA, utilizing a natural gas fired afterburner as control;
 - (2) Sanding towers, identified as STUCCO-TWR-7 thru STUCCO-TWR-22 & STUCCO-TWR-24 thru STUCCO-TWR-30, with a maximum capacity of 0.66 tons per hour of sand, utilizing a baghouse/settling chamber as particulate control, and exhausting to stacks ZD1, ZD2, and ZD3.
- (b) Finished casting line, with a maximum capacity of 3.0 tons per hour of unfinished castings and ceramic shells and consisting of:
 - (1) Arc welding gate removal, identified as PLASMA-CUTTER;
 - (2) Fifty-two (52) grinding booths, identified as DUST-COLL-FARR-001 thru DUST-COLL-FARR-004 & DUST-COLL-FARR-006 thru DUST-COLL-FARR-053, with a maximum capacity of 3.0 tons per hour of metal, each using a single cartridge-filter system as control, and exhausting to the interior of the building;
 - (3) One (1) Shotblast cabinet, identified as BLAST-05, with a maximum capacity of 3.0 tons per hour of metal, using a baghouse/settling chamber as control, and exhausting to stacks ZD1, ZD2, and ZD3;
 - (4) One (1) Power wash shell removal heater, identified as Z-WASH-003, with a maximum capacity of 1.35 mmBtu per hour;
 - (5) One (1) Chemical Shell removal heater, identified as LOW-TEMP, with a maximum capacity of 2.70 mmBtu per hour;
 - (6) Pneumatic Shell Removal, identified as KNOCKOUT-01 and KNOCKOUT-02, each with a maximum capacity of 0.33 tons per hour of casting shells, using a baghouse as control, and exhausting to stacks ZK1 and ZK2.
- (c) One Metal Melting and Auxiliary Operations, with a maximum capacity of 3.0 tons per

hour of metal and consisting of:

- (1) Nine (9) Shell Preheater Ovens, identified as VACUUM-CAST-02, ROLLOVER-CAST-05, VACUUM-CAST-06, VACUUM-CAST-08, VACUUM-CAST-09, & VACUUM-CAST-10, with a maximum rated heat input of 6.8, 0.75, 6.8, 6.8, 6.8, 0.75, 6.8, 6.8 and 0.75 million British Thermal Units (mmBtu) per hour, respectively, and exhausting to stacks 2P, 2P1, 4P, 5P, 6P, 6P1, 9P, 10P, 10P1, respectively; and
- (2) Six (6) Electric Induction Ovens, identified as VACUUM-CAST-02, ROLLOVER-CAST-05, VACUUM-CAST-06, VACUUM-CAST-08, VACUUM-CAST-09, & VACUUM-CAST -10.
- (d) Three (3) natural gas Boilers, identified as BOILER-HUMIDITY, BOILER-EAST, & BOILER-DEGREASE, with a maximum rated heat input of 2, 4.2 and 1.4 million British Thermal Units (mmBtu) per hour, respectively, and exhausting to stacks B1, B3 and O4H, respectively; and
- (e) One (1) hot water heater, with a maximum rated heat input of 0.65 mmBtu per hour, respectively, and exhausting to stack HW01.
- (f) Two (2) standby diesel generators identified as GEN-AUXPWR-01 & GEN-AUXPWR-02 with a maximum capacity of 201.2 horsepower and 355 horsepower, respectively.

SECTION B GENERAL CONSTRUCTION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Modification to Permit [326 IAC 2]

Notwithstanding the Section B condition entitled "Minor Source Operating Permit", all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section.
 - (1) If the Affidavit of Construction verifies that the facilities covered in this Construction Permit were constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (2) If the Affidavit of Construction does not verify that the facilities covered in this Construction Permit were constructed as proposed in the application, then the Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section prior to beginning operation of the facilities.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

- (c) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.
- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).
- (e) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. If IDEM, OAM, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 Particulate Matter Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2(c), the allowable particulate matter emissions rate from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.

C.2 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

- (a) The total source potential to emit of all criteria pollutants is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.
- (b) Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAM prior to making the change.
- (c) Any change or modification which may increase potential to emit to 10 tons per year of any single hazardous air pollutant, twenty-five tons per year of any combination of hazardous air pollutants, or 100 tons per year of any other regulated pollutant from this source, shall cause this source to be considered a major source under Part 70 Permit Program, 326 IAC 2-7, and shall require approval from IDEM, OAM prior to making the change.

C.3 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.4 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAM within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.5 Inspection and Entry [326 IAC 2-7-6(2)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.6 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAM, Permits Branch within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAM, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.7 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.8 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

C.9 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

Testing Requirements

C.10 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.11 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.12 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.13 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]

- (a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:
- (1) This condition;
 - (2) The Compliance Determination Requirements in Section D of this permit;
 - (3) The Compliance Monitoring Requirements in Section D of this permit;
 - (4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and
 - (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of :

- (A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and
 - (B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.
- (c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:
 - (1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;
 - (3) An automatic measurement was taken when the process was not operating; or
 - (4) The process has already returned to operating within "normal" parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken.

Record Keeping and Reporting Requirements

C.14 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.15 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.16 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;

- (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
- (1) Copies of all reports required by this permit;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

- (d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
 - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
 - (2) A malfunction as described in 326 IAC 1-6-2; or
 - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.
 - (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.
- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.18 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Management stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Data Section, Office of Air Management
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015
- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description

- (a) One (1) Ceramic Mold Operation, with a maximum capacity of 0.66 tons of metal and ceramic molds per hour and consisting of the following:
- (1) One dewax furnace, with a maximum rated heat capacity of 1.9 mmBtu per hour, identified as DEWAX-BIG-BERTHA, utilizing a natural gas fired afterburner as control;
 - (2) Sanding towers, identified as STUCCO-TWR-7 thru STUCCO-TWR-22 & STUCCO-TWR-24 thru STUCCO-TWR-30, with a maximum capacity of 0.66 tons per hour of sand, utilizing a baghouse/settling chamber as particulate control, and exhausting to stacks ZD1, ZD2, and ZD3.
- (b) Finished casting line, with a maximum capacity of 3.0 tons per hour of unfinished castings and ceramic shells and consisting of:
- (1) Arc welding gate removal, identified as PLASMA-CUTTER;
 - (2) Fifty-two (52) grinding booths, identified as DUST-COLL-FARR-001 thru DUST-COLL-FARR-004 & DUST-COLL-FARR-006 thru DUST-COLL-FARR-053, with a maximum capacity of 3.0 tons per hour of metal, each using a single cartridge-filter system as control, and exhausting to the interior of the building;
 - (3) One (1) Shotblast cabinet, identified as BLAST-05, with a maximum capacity of 3.0 tons per hour of metal, using a baghouse/settling chamber as control, and exhausting to stacks ZD1, ZD2, and ZD3;
 - (4) One (1) Power wash shell removal heater, identified as Z-WASH-003, with a maximum capacity of 1.35 mmBtu per hour;
 - (5) One (1) Chemical Shell removal heater, identified as LOW-TEMP, with a maximum capacity of 2.70 mmBtu per hour;
 - (6) Pneumatic Shell Removal, identified as KNOCKOUT-01 and KNOCKOUT-02, each with a maximum capacity of 0.33 tons per hour of casting shells, using a baghouse as control, and exhausting to stacks ZK1 and ZK2.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the:

- (a) one (1) Shotblast cabinet, (ID BLAST-05) shall not exceed 8.56 pounds per hour when operating at a process weight rate of 6000 pounds per hour.
- (b) fifty-two (52) grinding booths, (ID DUST-COLL-FARR-001 thru DUST-COLL-FARR-004 & DUST-COLL-FARR-006 thru DUST-COLL-FARR-053) shall not exceed 8.56 pounds per hour when operating at a process weight rate of 6000 pounds per hour.
- (c) pneumatic Shell Removal, (ID KNOCKOUT-01 and KNOCKOUT-02) shall not exceed 1.95 pounds per hour when operating at a process weight rate of 660 pounds per hour.

The pounds per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Compliance Determination Requirements

D.1.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.3 Particulate Matter (PM)

The baghouses for PM control shall be in operation at all times when the one (1) Shotblast cabinet, (ID BLAST-05) and pneumatic Shell Removal, (ID KNOCKOUT-01 and KNOCKOUT-02) units are in operation.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.4 Visible Emissions Notations

- (a) Weekly visible emission notations of the one (1) Shotblast cabinet, (ID BLAST-05 and pneumatic Shell Removal, (ID KNOCKOUT-01 and KNOCKOUT-02) units stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the one (1) Shotblast cabinet, (ID BLAST-05) and pneumatic Shell Removal, (ID KNOCKOUT-01 and KNOCKOUT-02) units, at least once weekly when the one (1) Shotblast cabinet, (ID BLAST-05) and pneumatic Shell Removal, (ID KNOCKOUT-01 and KNOCKOUT-02) units is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 1.0 and 7.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.1.6 Baghouse Inspections

An inspection shall be performed semi-annually of all bags used in conjunction with the one (1) Shotblast cabinet, (ID BLAST-05) and pneumatic Shell Removal, (ID KNOCKOUT-01 and KNOCKOUT-02) units when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and semi-annually thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.1.7 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.8 Record Keeping Requirements

- (a) To document compliance with Condition D.1.4, the Permittee shall maintain records of weekly visible emission notations of the one (1) Shotblast cabinet, (ID BLAST-05 and pneumatic Shell Removal, (ID KNOCKOUT-01 and KNOCKOUT-02) units stack exhaust.
- (b) To document compliance with Condition D.1.5, the Permittee shall maintain the following:
 - (1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:
 - (A) Inlet and outlet differential static pressure; and
 - (B) Cleaning cycle: frequency and differential pressure.
 - (2) Documentation of all response steps implemented, per event .
 - (3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.
 - (4) Quality Assurance/Quality Control (QA/QC) procedures.
 - (5) Operator standard operating procedures (SOP).
 - (6) Manufacturer's specifications or its equivalent.
 - (7) Equipment "troubleshooting" contingency plan.

- (8) Documentation of the dates vents are redirected.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description

- (a) One Metal Melting and Auxiliary Operations, with a maximum capacity of 3.0 tons per hour of metal and consisting of:
- (1) Nine (9) Shell Preheater Ovens, identified as VACUUM-CAST-02, ROLLOVER-CAST-05, VACUUM-CAST-06, VACUUM-CAST-08, VACUUM-CAST-09, & VACUUM-CAST-10, with a maximum rated heat input of 6.8, 0.75, 6.8, 6.8, 6.8, 0.75, 6.8, 6.8 and 0.75 million British Thermal Units (mmBtu) per hour, respectively, and exhausting to stacks 2P, 2P1, 4P, 5P, 6P, 6P1, 9P, 10P, 10P1, respectively; and
 - (2) Six (6) Electric Induction Ovens, identified as VACUUM-CAST-02, ROLLOVER-CAST-05, VACUUM-CAST-06, VACUUM-CAST-08, VACUUM-CAST-09, & VACUUM-CAST -10.
- (b) Three (3) natural gas Boilers, identified as BOILER-HUMIDITY, BOILER-EAST, & BOILER-DEGREASE, with a maximum rated heat input of 2, 4.2 and 1.4 million British Thermal Units (mmBtu) per hour, respectively, and exhausting to stacks B1, B3 and O4H, respectively; and
- (c) One (1) hot water heater, with a maximum rated heat input of 0.65 mmBtu per hour, respectively, and exhausting to stack HW01.
- (d) Two (2) standby diesel generators identified as GEN-AUXPWR-01 & GEN-AUXPWR-02 with a maximum capacity of 201.2 horsepower and 355 horsepower, respectively.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.2.1 Particulate Matter Limitation (PM) [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (a) (Particulate emission limitations for sources of indirect heating: emission limitations for facilities specified in 326 IAC 6-2-1(c)), particulate emissions from all facilities used for indirect heating purposes (Three (3) Boilers, identified as BOILER-HUMIDITY, BOILER-EAST, & BOILER-DEGREASE) which were constructed after September 21, 1983, shall in no case exceed 0.6 pounds of particulate matter per million British thermal units heat input.

D.2.2 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the one Melted Metal Operation, shall not exceed 8.56 pounds per hour when operating at a process weight rate of 6000 pounds per hour.

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

D.2.3 Natural Gas Fuel

The three (3) natural gas Boilers, identified as BOILER-HUMIDITY, BOILER-EAST, & BOILER-DEGREASE, shall use only natural gas fuel.

Compliance Determination Requirements

D.2.4 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

There are no Compliance Monitoring Requirements applicable to these emission units.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

There are no Record Keeping and Reporting Requirements applicable to these emission units.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Howmet Corporation, LaPorte Casting
Address:	1110 E. Lincolnway, LaPorte, IN 46350
City:	LaPorte
Phone #:	219-326-7400
MSOP #:	091-11567-00047

I hereby certify that **Howmet Corporation, LaPorte Casting** is ☒ still in operation.
☐ no longer in operation.

I hereby certify that **Howmet Corporation, LaPorte Casting** is
☒ in compliance with the requirements of MSOP **091-11567-00047**.
☐ not in compliance with the requirements of MSOP **091-11567-00047**.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ Howmet Corporation, LaPorte Casting _____ PHONE NO. (219) 326-7400
LOCATION: (CITY AND COUNTY) _____ LaPorte, LaPorte County _____
PERMIT NO. 091-11567-00047 AFS PLANT ID: 091-00047 AFS POINT ID: _____ INSP: Rick Massoels
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/20____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

PAGE 1 OF 2

Please note - This form should only be used to report malfunctions

**applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for a Minor Source Operating Permit

Source Name: Howmet Corporation, LaPorte Casting
 Source Location: 1110 E. Lincolnway, LaPorte, IN 46350
 County: LaPorte
 Operation Permit No.: MSOP091-11567-00047
 SIC Code: 3324
 Permit Reviewer: Phillip Ritz/EVP

On March 4, 2000, the Office of Air Management (OAM) had a notice published in the LaPorte Herald-Argus, LaPorte, Indiana, stating that Howmet Corporation, LaPorte Casting had applied for a Minor Source Operating Permit to operate a metal alloy casting plant. The notice also stated that OAM proposed to issue a Minor Source Operating Permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this Minor Source Operating Permit should be issued as proposed.

On May 2, 2000, Troy T. Wilkinson of Howmet Corporation, LaPorte Casting submitted comments on the proposed Minor Source Operating Permit. The summary of the comments and corresponding responses is as follows:

Comment 1

Please correct the emission unit descriptions in the TSD, Sections A.2, D.1, and D.2 in the Permit to read as follows:

- (a) One (1) Ceramic Mold Operation, with a maximum capacity of 0.66 tons of metal and ceramic molds per hour and consisting of the following:
 - (1) One ~~steam~~ dewax furnace, with a maximum rated heat capacity of 1.9 mmBtu per hour, identified as **DEWAX-BIG-BERTHA ZF002-D**, utilizing a natural gas fired afterburner as control;
 - (2) Sanding towers, identified as **STUCCO-TWR-7 thru STUCCO-TWR-22 & STUCCO-TWR-24 thru STUCCO-TWR-30 ZD001S-20S**, with a maximum capacity of 0.66 tons per hour of sand, utilizing a baghouse/settling chamber as particulate control, and exhausting to stacks ZD1, ZD2, and ZD3.
- (b) Finished casting line, with a maximum capacity of 3.0 tons per hour of unfinished castings and ceramic shells and consisting of:
 - (1) Arc welding gate removal, identified as **PLASMA-CUTTER ZPLSM-03**;
 - (2) ~~Thirty-Fifty-two (3252)~~ grinding booths, identified as **DUST-COLL-FARR-001 thru DUST-COLL-FARR-004 & DUST-COLL-FARR-006 thru DUST-COLL-FARR-053 ZDCOL-01 thru ZDCOL-32**, with a maximum capacity of 3.0 tons per hour of metal, each using a single cartridge-filter system as control, and exhausting to the interior of the building;
 - (3) One (1) Shotblast cabinet, identified as **BLAST-05 ZS004B**, with a maximum capacity of 3.0 tons per hour of metal, using a baghouse/settling chamber as control, and exhausting to stacks ZD1, ZD2, and ZD3;
 - (4) ~~One Acid Etch Scrubber, identified as ZE010-X;~~
 - (5) **One (1) Power wash shell removal heater**, identified as Z-WASH-003, with a

- maximum capacity of ~~0.9~~ **1.35** mmBtu per hour, ~~using a scrubber as control, and exhausting to stack PW;~~
- (6) One (1) Chemical Shell removal operation ~~heater, using a scrubber as control, identified as ZK9442-06~~ **LOW-TEMP, with a maximum capacity of 2.70 mmBtu per hour;**
 - (7) ~~One (1) Chemical Storage Tank with a storage capacity of less than 10,000 gallons, using a scrubber as control, identified as ZK956Z-01; and~~
 - (8) Pneumatic Shell Removal, identified as **KNOCKOUT-01 and KNOCKOUT-02** ~~ZK091C-01 and ZK091C-02~~, each with a maximum capacity of 0.33 tons per hour of casting shells, using a baghouse as control, and exhausting to stacks ZK1 and ZK2.
- (c) One Metal Melting and Auxiliary Operations, with a maximum capacity of 3.0 tons per hour of metal and consisting of:
- (1) Nine (9) Shell Preheater Ovens, identified as **VACUUM-CAST-02, ROLLOVER-CAST-05, VACUUM-CAST-06, VACUUM-CAST-08, VACUUM-CAST-09, & VACUUM-CAST-10.** ~~2P, 2P-01, 4P, 5P, 6P, 6P-01, 9P, 10P, 10P-01,~~ with a maximum rated heat input of 6.8, 0.75, 6.8, 6.8, 6.8, 0.75, 6.8, 6.8 and 0.75 million British Thermal Units (mmBtu) per hour, respectively, and exhausting to stacks 2P, 2P1, 4P, 5P, 6P, 6P1, 9P, 10P, 10P1, respectively; and
 - (2) Six (6) Electric Induction Ovens, identified as **VACUUM-CAST-02, ROLLOVER-CAST-05, VACUUM-CAST-06, VACUUM-CAST-08, VACUUM-CAST-09, & VACUUM-CAST -10.** ~~ZC002-V, ZC005R, ZC006V, ZC008V, ZC009V and ZC010V.~~
- (d) Three (3) natural gas Boilers, identified as **BOILER-HUMIDITY, BOILER-EAST, & BOILER-DEGREASE** ~~Boilers #1, #2 and #4,~~ with a maximum rated heat input of 2, 4.2 and 1.4 million British Thermal Units (mmBtu) per hour, respectively, and exhausting to stacks B1, B3 and O4H, respectively; and
- (e) One (1) hot water heater, with a maximum rated heat input of 0.65 mmBtu per hour, respectively, and exhausting to stack HW01.
- (f) ~~Two One (12)~~ standby diesel generators **identified as GEN-AUXPWR-01 & GEN-AUXPWR-02** with a maximum capacity of 201.2 horsepower **and 355 horsepower, respectively.**

Response 1

The revised unit descriptions and identifications do not result in any change in the potential to emit for the source. The emission calculations for the grinding booths were based on the maximum throughput for the entire grinding operation, which has not changed.

The OAM prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

- (a) The following changes have been made to the emission unit description in the TSD and in Section A.2 of the permit: (additions indicated in **boldface**, deletions indicated by ~~strikeout~~ for emphasis):
- (a) One (1) Ceramic Mold Operation, with a maximum capacity of 0.66 tons of metal and ceramic molds per hour and consisting of the following:
 - (1) One ~~steam~~ dewax furnace, with a maximum rated heat capacity of 1.9 mmBtu per hour, identified as **DEWAX-BIG-BERTHA** ~~ZF002-D~~, utilizing a natural gas fired afterburner as control;
 - (2) Sanding towers, identified as **STUCCO-TWR-7 thru STUCCO-TWR-22 &**

- STUCCO-TWR-24 thru STUCCO-TWR-30 ZD001S-20S**, with a maximum capacity of 0.66 tons per hour of sand, utilizing a baghouse/settling chamber as particulate control, and exhausting to stacks ZD1, ZD2, and ZD3.
- (b) Finished casting line, with a maximum capacity of 3.0 tons per hour of unfinished castings and ceramic shells and consisting of:
- (1) Arc welding gate removal, identified as **PLASMA-CUTTER ZPLSM-03**;
 - (2) ~~Thirty-Fifty-two (3252)~~ grinding booths, identified as **DUST-COLL-FARR-001 thru DUST-COLL-FARR-004 & DUST-COLL-FARR-006 thru DUST-COLL-FARR-053 ZDCOL-01 thru ZDCOL-32**, with a maximum capacity of 3.0 tons per hour of metal, each using a single cartridge-filter system as control, and exhausting to the interior of the building;
 - (3) One (1) Shotblast cabinet, identified as **BLAST-05 ZS004B**, with a maximum capacity of 3.0 tons per hour of metal, using a baghouse/settling chamber as control, and exhausting to stacks ZD1, ZD2, and ZD3;
 - (4) ~~One Acid Etch Scrubber, identified as ZE010-X;~~
 - (5)(4) **One (1) Power wash shell removal heater**, identified as Z-WASH-003, with a maximum capacity of ~~0-9~~ **1.35** mmBtu per hour; ~~using a scrubber as control, and exhausting to stack PW;~~
 - (6)(5) **One (1) Chemical Shell removal operation heater, using a scrubber as control**, identified as ~~ZK9442-06~~ **LOW-TEMP, with a maximum capacity of 2.70 mmBtu per hour;**
 - (7) ~~One (1) Chemical Storage Tank with a storage capacity of less than 10,000 gallons, using a scrubber as control, identified as ZK956Z-01; and~~
 - (8)(6) **Pneumatic Shell Removal, identified as KNOCKOUT-01 and KNOCKOUT-02 ZK091C-01 and ZK091C-02**, each with a maximum capacity of 0.33 tons per hour of casting shells, using a baghouse as control, and exhausting to stacks ZK1 and ZK2.
- (c) One Metal Melting and Auxiliary Operations, with a maximum capacity of 3.0 tons per hour of metal and consisting of:
- (1) Nine (9) Shell Preheater Ovens, identified as **VACUUM-CAST-02, ROLLOVER-CAST-05, VACUUM-CAST-06, VACUUM-CAST-08, VACUUM-CAST-09, & VACUUM-CAST-10. 2P, 2P-01, 4P, 5P, 6P, 6P-01, 9P, 10P, 10P-01**, with a maximum rated heat input of 6.8, 0.75, 6.8, 6.8, 6.8, 0.75, 6.8, 6.8 and 0.75 million British Thermal Units (mmBtu) per hour, respectively, and exhausting to stacks 2P, 2P1, 4P, 5P, 6P, 6P1, 9P, 10P, 10P1, respectively; and
 - (2) Six (6) Electric Induction Ovens, identified as **VACUUM-CAST-02, ROLLOVER-CAST-05, VACUUM-CAST-06, VACUUM-CAST-08, VACUUM-CAST-09, & VACUUM-CAST -10. ZC002-V, ZC005R, ZC006V, ZC008V, ZC009V and ZC010V.**
- (d) Three (3) natural gas Boilers, identified as **BOILER-HUMIDITY, BOILER-EAST, & BOILER-DEGREASE Boilers #1, #2 and #4**, with a maximum rated heat input of 2, 4.2 and 1.4 million British Thermal Units (mmBtu) per hour, respectively, and exhausting to stacks B1, B3 and O4H, respectively; and
- (e) One (1) hot water heater, with a maximum rated heat input of 0.65 mmBtu per hour, respectively, and exhausting to stack HW01.
- (f) ~~Two One (42)~~ standby diesel generators identified as **GEN-AUXPWR-01 & GEN-AUXPWR-02** with a maximum capacity of 201.2 horsepower and **355 horsepower, respectively.**
- (b) Condition D.1.1, Particulate Matter (PM), has been revised as follows to include the new unit descriptions and identifications:
- (a) one (1) Shotblast cabinet, (ID **BLAST-05 ZS004B**) shall not exceed 8.56 pounds per hour when operating at a process weight rate of 6000 pounds per hour.

- (b) ~~thirty~~ **fifty-two (3252)** grinding booths, (ID **DUST-COLL-FARR-001 thru DUST-COLL-FARR-004 & DUST-COLL-FARR-006 thru DUST-COLL-FARR-053** ~~ZDCOL-01 thru ZDCOL-32~~) shall not exceed 8.56 pounds per hour when operating at a process weight rate of 6000 pounds per hour.
- (c) pneumatic Shell Removal, (ID **KNOCKOUT-01 and KNOCKOUT-02** ~~ZK091C-01 and ZK091C-02~~) shall not exceed 1.95 pounds per hour when operating at a process weight rate of 660 pounds per hour.
- (c) Condition D.1.3, Particulate Matter (PM), has been revised as follows to include the new unit descriptions and identifications:

The baghouses for PM control shall be in operation at all times when the one (1) Shotblast cabinet, (ID **BLAST-05 ZS004B**) and pneumatic Shell Removal, (ID **KNOCKOUT-01 and KNOCKOUT-02** ~~ZK091C-01 and ZK091C-02~~) units are in operation. ~~The single cartridge filter systems for PM control shall be in operation at all times when the thirty-two (32) grinding booths, (ID ZDCOL-01 thru ZDCOL-32) are in operation.~~
- (d) Condition D.1.4, Visible Emissions Notations, has been revised as follows to include the new unit descriptions and identifications:
 - (a) ~~Daily~~ **Weekly** visible emission notations of the one (1) Shotblast cabinet, (ID **BLAST-05 ZS004B**) , ~~thirty-two (32) grinding booths, (ID ZDCOL-01 thru ZDCOL-32)~~ and pneumatic Shell Removal, (ID **KNOCKOUT-01 and KNOCKOUT-02** ~~ZK091C-01 and ZK091C-02~~) units stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (e) Condition D.1.5, Parametric Monitoring, has been revised as follows to include the new unit descriptions and identifications:

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the one (1) Shotblast cabinet, (ID **BLAST-05 ZS004B**) and pneumatic Shell Removal, (ID **KNOCKOUT-01 and KNOCKOUT-02** ~~ZK091C-01 and ZK091C-02~~) units, at least once weekly when the one (1) Shotblast cabinet, (ID **BLAST-05 ZS004B**) and pneumatic Shell Removal, (ID **KNOCKOUT-01 and KNOCKOUT-02** ~~ZK091C-01 and ZK091C-02~~) units is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 1.0 and 7.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.
- (f) Condition D.1.6, Baghouse Inspections, has been revised as follows to include the new unit descriptions and identifications:

An inspection shall be performed ~~each calendar quarter~~ **semi-annually** of all bags used in conjunction with the one (1) Shotblast cabinet, (ID **BLAST-05 ZS004B**) and pneumatic Shell Removal, (ID **KNOCKOUT-01 and KNOCKOUT-02** ~~ZK091C-01 and ZK091C-02~~) units when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and ~~every three months~~ **semi-annually** thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

- (g) Condition D.2.1, Particulate Matter Limitation (PM), has been revised as follows to include the new unit descriptions and identifications:

Pursuant to 326 IAC 6-2-4 (a) (Particulate emission limitations for sources of indirect heating: emission limitations for facilities specified in 326 IAC 6-2-1(c)), particulate emissions from all facilities used for indirect heating purposes (Three (3) Boilers, identified as **BOILER-HUMIDITY, BOILER-EAST, & BOILER-DEGREASE** Boilers #1, #2 and #4) which were constructed after September 21, 1983, shall in no case exceed 0.6 pounds of particulate matter per million British thermal units heat input.

- (h) Condition D.2.3, Natural Gas Fuel, has been revised as follows to include the new unit descriptions and identifications:

The three (3) natural gas Boilers, identified as **BOILER-HUMIDITY, BOILER-EAST, & BOILER-DEGREASE** Boilers #1, #2 and #4, shall use only natural gas fuel.

Comment 2

Condition A.2(b)(4) and D.1(b)(4): Acid Etch Scrubber

The acid etch scrubber is the control device for the acid etch process, which is not a source of regulated criteria air pollutants or Hazardous Air Pollutants. We therefore wish to request that the acid etch scrubber be deleted.

Response 2

The acid etch scrubber, which is not a source of regulated criteria air pollutants or Hazardous Air Pollutants, has been removed from the permit. However, if the scrubber will be used to control regulated HAPs or criteria air pollutants, it has to be permitted prior to the change or modification. The changes to Section A.2 and D.1 of the permit are as follows:

- ~~(4) One Acid Etch Scrubber, identified as ZE010-X;~~

Comment 3

Condition A.2(b)(5) and D.1(b)(5), A.2(b)(6) and D.1(b)(6):

Power Wash Shell Removal, Chemical Shell Removal

The power wash shell removal and the chemical shell removal operations do not utilize chemicals that release regulated criteria air pollutants or Hazardous Air Pollutants. The scrubbers that are associated with these processes are utilized for the control of caustic and other non-regulated fumes. In addition, these are wet processes and do not result in particulate emissions. The only regulated source of emissions from these two operations is the natural gas burners that heat the process solutions. We therefore wish to request that the descriptions in the permit be revised as shown on the mark-up, removing the scrubbers and adding "heater" to each description. The maximum capacities are 1.35 mmBtu/hr for the power wash shell removal and 2.70 mmBtu/hr for the chemical shell removal.

Response 3

To clarify the descriptions of the power wash shell removal heater and the chemical shell removal heater, the changes to Section A.2 and D.1 of the permit are as follows:

- ~~(5)(4)~~ **One (1) Power wash shell removal heater**, identified as Z-WASH-003, with a maximum capacity of ~~0.9~~ **1.35** mmBtu per hour, ~~using a scrubber as control, and exhausting to stack PW;~~
- ~~(6)(5)~~ **One (1) Chemical Shell removal operation heater**, ~~using a scrubber as control~~, identified as ~~ZK9442-06~~ **LOW-TEMP**, with a maximum capacity of **2.70** mmBtu per hour;

Comment 4

Condition A.2(b)(7): Chemical Storage Tank

The chemical storage tank does not store chemicals that are regulated criteria air pollutants or Hazardous Air Pollutants. We therefore wish to request that the chemical storage tank be deleted.

Response 4

The chemical storage tank, which is not a source of regulated criteria air pollutants or Hazardous Air Pollutants, has been removed from the permit. However, if the chemical storage tank will be used to store regulated HAPs or criteria air pollutants, it has to be permitted prior to the change or modification. The changes to Section A.2 and D.1 of the permit are as follows:

- (7) ~~One (1) Chemical Storage Tank with a storage capacity of less than 10,000 gallons, using a scrubber as control, identified as ZK956Z-01; and~~

Comment 5

Condition D.1.4(a): Visible Emissions Notations

We wish to request that the permit require weekly visible emission (VE) notations. We believe that daily VE notations are excessive for the low level of emissions that this facility produces. Also, on a day to day basis our production and associated emissions are relatively consistent and do not suffer from radical changes. We believe that a daily VE notation frequency would offer no additional useful information over a weekly VE notation frequency.

Comment 6

Each of the fifty-two grinding booths only handles a small fraction of the total 3.0 tons per hour throughput. They are individually controlled and would each classify as an insignificant activity under the Title V classification for controlled sources, which is airflow under 4,000 acfm and a design grain loading of 0.03 grains per actual cubic foot or better. We therefore request that these grinding booths be removed from Condition D.1.4(a).

Responses 5 and 6

In this case it is possible to reduce the frequency from daily to weekly visible emissions. The grinding operation utilizes a control device and the allowable emissions for the operation are less than 10 pounds per hour, therefore, the compliance monitoring requirements do not apply to the grinding operation. Condition D.1.4(a) has been revised as follows:

- (a) ~~Daily~~**Weekly** visible emission notations of the one (1) Shotblast cabinet, (ID **BLAST-05 ZS001B**) , ~~thirty-two (32) grinding booths, (ID ZDCOL-01 thru ZDCOL-32)~~ and pneumatic Shell Removal, (ID **KNOCKOUT-01 and KNOCKOUT-02** ~~ZK091C-01 and ZK091C-02~~) units stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

Comment 7

Condition D.1.6: Baghouse Inspections

We do not believe that quarterly baghouse inspections will offer any additional benefit over semi-annual inspections for the types of operations that are controlled by our baghouses. In addition, we have experienced very reliable baghouse operation that we attribute to our proactive inspection and maintenance program. We therefore request that the Condition be revised to require semi-annual baghouse inspections.

Response 7

In this case it is possible to reduce the frequency from quarterly to semi-annual baghouse inspections. The Condition D.1.6 of the permit, Baghouse Inspections, has been revised as follows:

An inspection shall be performed ~~each calendar quarter~~ **semi-annually** of all bags used in conjunction with the one (1) Shotblast cabinet, (ID ~~BLAST-05 ZS001B~~) and pneumatic Shell Removal, (ID ~~KNOCKOUT-01 and KNOCKOUT-02 ZK001C-01 and ZK001C-02~~) units when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and ~~every three months~~ **semi-annually** thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

Comment 8

Condition D.1.8: Record Keeping Requirements

Please correct the Condition to reference only D.1.4 through D.1.7. In addition, please delete the text "additional" and "as prescribed by the Preventive Maintenance Plan". The Preventive Maintenance Plan and required record keeping are already detailed in Section C of the MSOP. In addition, we believe that the indicated text is confusing when included in this Condition.

Response 8

To correct the conditions referenced, and to correct the record keeping requirements for visible emissions and for parametric monitoring, Condition D.1.8 of the permit has been revised as follows:

- ~~(a) To document compliance with Conditions D.1.4, D.1.5, D.1.6, D.1.7 and D.1.8, the Permittee shall maintain a log of those additional inspections prescribed by the Preventive Maintenance Plan.~~
- (a) To document compliance with Condition D.1.4, the Permittee shall maintain records of weekly visible emission notations of the one (1) Shotblast cabinet, (ID BLAST-05 and pneumatic Shell Removal, (ID KNOCKOUT-01 and KNOCKOUT-02) units stack exhaust.
- (b) To document compliance with Condition D.1.5, the Permittee shall maintain the following:

 - (1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:
 - (A) Inlet and outlet differential static pressure; and
 - (B) Cleaning cycle: frequency and differential pressure.
 - (2) Documentation of all response steps implemented, per event .
 - (3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.
 - (4) Quality Assurance/Quality Control (QA/QC) procedures.
 - (5) Operator standard operating procedures (SOP).
 - (6) Manufacturer's specifications or its equivalent.
 - (7) Equipment "troubleshooting" contingency plan.
 - (8) Documentation of the dates vents are redirected.
- (bc) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for a Minor Source Operating Permit

Source Background and Description

Source Name: Howmet Corporation, LaPorte Casting
Source Location: 1110 E. Lincolnway, LaPorte, IN 46350
County: LaPorte
SIC Code: 3324
Operation Permit No.: MSOP091-11567-00047
Permit Reviewer: Phillip Ritz/EVP

The Office of Air Management (OAM) has reviewed an application from Howmet Corporation, LaPorte Casting relating to the construction and operation of a metal alloy casting plant.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) Ceramic Mold Operation, with a maximum capacity of 0.66 tons of metal and ceramic molds per hour and consisting of the following:
 - (1) One steam dewax furnace, with a maximum rated heat capacity of 1.9 mmBtu per hour, identified as ZF002-D, utilizing a natural gas fired afterburner as control.
- (b) Finished casting line, with a maximum capacity of 3.0 tons per hour of unfinished castings and ceramic shells and consisting of:
 - (1) Arc welding gate removal, identified as ZPLSM-03;
 - (2) Thirty-two (32) grinding booths, identified as ZDCOL-01 thru ZDCOL-32, with a maximum capacity of 3.0 tons per hour of metal, each using a single cartridge-filter system as control, and exhausting to the interior of the building;
 - (3) One (1) Shotblast cabinet, identified as ZS001B, with a maximum capacity of 3.0 tons per hour of metal, using a baghouse/settling chamber as control, and exhausting to stack ZD1, ZD2, and ZD3;
 - (4) One Acid Etch Scrubber, identified as ZE010-X;
 - (5) Power wash shell removal, identified as Z-WASH-003, with a maximum capacity of 0.9 mmBtu per hour, using a scrubber as control, and exhausting to stack PW;
 - (6) One (1) Chemical Shell removal operation, using a scrubber as control, identified as ZK9442-06; and
 - (7) One (1) Chemical Storage Tank with a storage capacity of less than 10,000 gallons, using a scrubber as control, identified as ZK956Z-01.
- (c) One Metal Melting and Auxiliary Operations, with a maximum capacity of 3.0 tons per hour of metal and consisting of:
 - (1) Nine (9) Shell Preheater Ovens, identified as 2P, 2P-01, 4P, 5P, 6P, 6P-01, 9P, 10P, 10P-01, with a maximum rated heat input of 6.8, 0.75, 6.8, 6.8, 6.8, 0.75, 6.8, 6.8 and 0.75 million British Thermal Units (mmBtu) per hour, respectively, and exhausting to stacks 2P, 2P1, 4P, 5P, 6P, 6P1, 9P, 10P, 10P1, respectively; and
 - (2) Six (6) Electric Induction Ovens, identified as ZC002-V, ZC005R, ZC006V, ZC008V, ZC009V and ZC010V.

- (d) Three (3) natural gas Boilers, identified as Boilers #1, #2 and #4, with a maximum rated heat input of 2, 4.2 and 1.4 million British Thermal Units (mmBtu) per hour, respectively, and exhausting to stacks B1, B3 and O4H, respectively; and
- (e) One (1) hot water heater, with a maximum rated heat input of 0.65 mmBtu per hour, respectively, and exhausting to stack HW01.
- (f) One (1) standby diesel generator with a maximum capacity of 201.2 horsepower.

Note: The following previously permitted equipment at the source has been decommissioned:

- (1) one (1) existing 13.4 mmBtu per hour Boiler, identified as Boiler #3;
- (2) one (1) natural gas fired dewax furnace, identified as ZFDWAX-S01; and
- (3) three (3) preheat ovens, identified as ZF005-P, ZF009-P and ZF010-P.

Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted facilities/units:

- (a) Pneumatic Shell Removal, identified as ZK091C-01 and ZK091C-02, each with a maximum capacity of 0.33 tons per hour of casting shells, using a baghouse as control, and exhausting to stacks ZK1 and ZK2;
- (b) Sanding towers, identified as ZD001S-20S, with a maximum capacity of 0.66 tons per hour of sand, utilizing a baghouse/settling chamber as particulate control, and exhausting to stacks ZD1, ZD2, and ZD3.

New Emission Units and Pollution Control Equipment

There are no new emission units and pollution control equipment operating at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Operation Permit 46-03-91-0194, issued on June 30, 1987; and
- (b) Registration, issued on November 20, 1980.

All conditions from previous approvals were incorporated into this permit.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
B1	Boiler	36.5	1.9	Unknown	250
B2	Boiler	38.5	3.0	Unknown	340
B4	Boiler	31.0	1.0	Unknown	420
HW01	Hot water heater	31.5	1.0	Unknown	270
ZD1	Shotblasting	30.0	2.5x2.5	10,000	70
ZD2	Shotblasting	30.0	2.5x2.5	10,000	70
ZD3	Shotblasting	30.0	2.5x2.5	10,000	70
2P	Shell Preheater	40.0	1.5	Unknown	890
2P1	Shell Preheater	34.0	0.7	Unknown	415
4P	Shell Preheater	39.5	1.7	Unknown	890
6P	Shell Preheater	37.0	18.0	Unknown	890
6P1	Shell Preheater	35.0	8.0	Unknown	415
10P1	Shell Preheater	33.0	9.0	Unknown	415
ZK1	Shell Removal	25.0	30x30	6000	70
ZK2	Shell Removal	25.0	30x30	6000	70
ZK3	Shell Removal	25.0	30x20	6000	70
PW	Powerwash	26.0	0.7	Unknown	100
PW1	Powerwash	33.0	0.3	Unknown	300

Enforcement Issue

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment*.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on November 17, 1999.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 5.)

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	3,621.12
PM-10	54.44
SO ₂	0.15
VOC	1.40
CO	21.34
NO _x	25.40

HAP's	Potential To Emit (tons/year)
Lead	less than 10
TOTAL	less than 25

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM, PM10 and Nox are equal to or greater than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1-3(b).

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1996 Criteria Pollutant Allowable Emissions Survey submitted by the source.

Pollutant	Actual Emissions (tons/year)
PM	5.77
PM-10	5.77
SO ₂	0.02
VOC	0.16
CO	0.60
NO _x	3.02
HAP (specify)	0.00

County Attainment Status

The source is located in LaPorte County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. LaPorte County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) LaPorte County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	34.91
PM10	18.06
SO ₂	0.11
VOC	1.03
CO	15.75
NO _x	18.75

- (a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on the MSOP application submitted by the source.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source and unpermitted units (covered entirely by this permit **MSOP091-11567-00047**) is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAM inspector assigned to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (326 IAC 12) applicable to this source.
 - (1) The induction furnaces do not conform to the definition of an electric arc furnace under 40 CFR 60.271a, therefore, Subpart Aaa does not apply.
 - (2) The furnaces do not conform to the definition of an electric submerged arc furnace under 40 CFR 60.261, therefore, Subpart Z does not apply.
 - (3) This source is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart Dc), as there are no boilers at the source with a heat input greater than 10 mmBtu per hour.
- (3) This source is not subject to the requirements of the New Source Performance

Standard, 326 IAC 12, (40 CFR Part 60.110b, Subpart Kb) "Standards of Performance for Volatile Organic Liquid Storage Vessels", as the tank has a storage capacity less than 40 cubic meters.

- (b) There are no Emission Standards for Hazardous Air Pollutants (326 IAC 14) applicable to this metal alloy casting plant. The source does not process beryllium ore, beryllium oxide, beryllium alloys, or beryllium containing waste as defined under 40 CFR 61.30, therefore, Subpart C (and 326 IAC 14-3) does not apply.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in LaPorte County and the potential to emit VOC and NOx is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

The source will be required to annually submit a statement of the actual emissions of all federally regulated pollutants from the source, for the purpose of fee assessment.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

The three (3) Boilers (ID #1, #2 and #4) with a maximum rated heat input of 2.0, 4.2 and 1.0 million British Thermal Units (MMBtu) per hour, respectively, are subject to the particulate matter limitations of 326 IAC 6-2. Pursuant to this rule, the three (3) boilers (constructed after September 21, 1983) with a total source maximum operating capacity of less than 10 MMBtu/hr, shall not exceed 0.6 pounds of particulate matter emitted per million Btu (lb/MMBtu).

Therefore, the three (3) Boilers (ID #1, #2 and #4) are limited to 0.6 lbs PM/MMBtu.

compliance calculation:

$(0.06 \text{ tons PM/yr}) * (\text{hr}/7.2 \text{ MMBtu}) * (\text{yr}/8,760 \text{ hrs}) * (2,000 \text{ lbs/ton}) = 0.002 \text{ lbs PM/MMBtu}$

Actual lbs PM/MMBtu (0.002) are less than allowable lbs PM/MMBtu (0.6), therefore the three (3) Boilers (ID #1, #2 and #4) will comply with the requirements of 326 IAC 6-4.

326 IAC 6-3-2 (Process Operations)

- (a) The particulate matter (PM) from the one (1) Shotblast cabinet, (IDZS001B) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

$$E = 4.10 (3.0)^{0.67} \quad \text{where } E = 8.56 \\ P = 3.00$$

The baghouse shall be in operation at all times the one (1) Shotblast cabinet, (ID ZS001B) is in operation, in order to comply with this limit.

- (b) The particulate matter (PM) from the thirty-two (32) grinding booths, (ID ZDCOL-01 thru ZDCOL-32) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

$$E = 4.10 (3.0)^{0.67} \quad \text{where } E = 8.56 \\ P = 3.00$$

The cartridge filter systems shall be in operation at all times the thirty-two (32) grinding booths, (ID ZDCOL-01 thru ZDCOL-32) are in operation, in order to comply with this limit.

- (c) The particulate matter (PM) from the pneumatic Shell Removal, (ID ZK091C-01 and ZK091C-02) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

$$E = 4.10 (0.33)^{0.67} \quad \text{where } E = 1.95 \\ P = 0.33$$

The baghouse shall be in operation at all times the pneumatic Shell Removal, (ID ZK091C-01 and ZK091C-02), is in operation, in order to comply with this limit.

- (d) The one Melted Metal Operation, with a maximum capacity of 3.0 tons per hour of melted metal shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

$$E = 4.10 (3.0)^{0.67} \quad \text{where } E = 8.56 \\ P = 3.0$$

Potential uncontrolled emissions (0.36 tons/yr) are less than allowable emissions (8.56 tons/yr), therefore, the Melted Metal Operation will comply with the requirements of 326 IAC 6-3-2.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous

air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

- (a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.
- (b) See attached calculations for detailed air toxic calculations. (Appendix A, page 3 and 5 of 5)

Conclusion

The construction and operation of this metal alloy casting facility shall be subject to the conditions of the attached proposed **Minor Source Operating Permit MSOP091-11567-00047**.

Uncontrolled Potential Emissions (tons/year)

Total emissions based on rated capacity at 8,760 hours/year.

Emissions Generating Activity

Total emissions based on rated capacity at 8,760 hours/year, after control.

Appendix A: Emissions Calculations

Page 2 of 5 TSD App A

Company Name: Howmet Corporation, LaPorte Casting
 Address City IN Zip: 1110 E. Lincoln Highway Laporte, IN 46350
 CP: MSOP 091-11567-00047
 Reviewer: PR/EVP
 Date: 11/17/99

Induction Melting Furnaces(SCC30400303)

PM	3 tons steel/hr x	0.9 lb PM/ton steel x	8760 hr/yr /	2000 lb/ton =	11.83 tons/yr
PM-10	3 tons steel/hr x	0.9 lb PM/ton steel x	8760 hr/yr /	2000 lb/ton =	11.83 tons/yr
HAPs (Lead)	3 tons steel/hr x	0.1 lb PM/ton steel x	8760 hr/yr /	2000 lb/ton =	1.31 tons/yr

Wax Burn Out Oven

The following calculations for the wax burn out oven were submitted by the source:

as wax and
 Number 5
 residual oil.
 demonstrates this
 conversion.

oil

would therefore
 be:

PM10/year

Grinding Finishing (SCC 30400340)

PM	3 tons steel/hr x	0.01 lb PM/ton steel x	4.38 tons/yr / lb/hr	0.13 tons/yr
PM10	3 tons steel/hr x	0.00 lb PM/ton steel x	4.38 tons/yr / lb/hr	0.06 tons/yr

The following calculations determine emissions from the metal alloy shotblasting processes based on 8760 hours and applicant specified information pertaining to each PM/PM10 control device. PM10 is assumed to equal 1% of PM.

Baghouse: Pneumatic shell removal

						PM Emissions	PM-10 Emissions (1% of PM emissions)
PM/PM10:	0.01 gr/acf outlet x	30000 acf/min x	60 min/hr /	7000 gr/lb x	4.38 ton/yr / lb/hr =	2252.57	22.53 tons/yr (uncontrolled)
where the baghouse control efficiency is listed at						11.26	0.11 tons/yr (controlled)

Baghouse: Shotblasting

PM/PM10:	0.01 gr/acf outlet x	18000 acf/min x	60 min/hr /	7000 gr/lb x	4.38 ton/yr / lb/hr =	1351.54	13.52 tons/yr (uncontrolled)
where the baghouse control efficiency is listed at						6.76	0.07 tons/yr (controlled)

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

Company Name: Howmet Corporation, LaPorte Casting
Address City IN Zip: 1110 E. Lincoln Highway Laporte, IN 46350
CP: MSOP 091-11567-00047
Reviewer: PR/EVP
Date: 11/17/99

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

58.0

508.1

Unit Description	Heat Input (mmBtu)
DeWax Furnace	4.50
Steam Dewax	0.70
Afterburner	0.50
Shell Preheater Ovens	43.05
Powerwash Shell Removal	0.90
Lattner Gas Boiler #1	2.00
York-Shipley Gas Boiler #2	4.20
Fulton Boiler Preheater #4	1.40
Hot Water Heaters	0.65
Space Heaters	0.10

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.48	1.93	0.15	25.40	1.40	21.34

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only**

Page 4 of 5 TSD App A

MM BTU/HR <100

HAPs Emissions

Company Name: Howmet Corporation, LaPorte Casting
Address City IN Zip: 1110 E. Lincoln Highway Laporte, IN 46350
CP: MSOP 091-11567-00047
Reviewer: PR/EVP
Date: 11/17/99

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	0.001	0.000	0.019	0.457	0.001

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	0.000	0.000	0.000	0.000	0.001

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Welding and Thermal Cutting

Page 5 of 5 TSD App A

Company Name: Howmet Corporation, LaPorte Casting
Address City IN Zip: 1110 E. Lincoln Highway Laporte, IN 46350
CP: MSOP 091-11567-00047
Reviewer: PR/EVP
Date: 11/17/99

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS * (lb pollutant / lb electrode)				EMISSIONS (lb/hr)				TOTAL HAPS (lb/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING												
Tungsten Inert Gas (TIG)(carbon steel)	3	2		0.0055				0.033	0.000	0.000	0.000	0.000
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)				EMISSIONS (lbs/hr)				TOTAL HAPS (lb/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene	3	0.5	13	0.1622	0.0005	0.0001	0.0003	0.190	0.000	0.000	0.000	0.000
EMISSION TOTALS								PM = PM10	Mn	Ni	Cr	Total HAPs
Potential Emissions lbs/hr								0.22	0.00	0.00	0.00	0.00
Potential Emissions lbs/day								5.35	0.00	0.00	0.00	0.00
Potential Emissions tons/year								0.98	0.00	0.00	0.00	0.00

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column. Consult AP-42 or other reference for different electrode types.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/day x 1 ton/2,000 lbs.

Plasma cutting emission factors are from the American Welding Society study published in Sweden (March 1994).

Welding and other flame cutting emission factors are from an internal training session document.

See AP-42, Chapter 12.19 for additional emission factors for welding.